NR 445 Technical Advisory Group Meeting 4
May 25, 2000 Notes
(WDNR, GEF II Rm 027)

TAG Attendance: Jim Beasom, Appleton Papers, Inc.; Dave Gardner, Briggs &Stratton Corp.; Hank Handzel, WPC&PIW; John Hausbeck, Madison Public Health; Howard Hofmeister, Bemis Co.; Dan Daggett, WI Bureau of Public Health; Brian Mitchell, WI Cast Metals Assoc.; Anne Neudorfer, WI Cast Metals Assoc.; Keith Reopelle, WI Environmental Decade; Rudy Salcedo, City of MKE Health Dept; Rob Sherman, Kraft Foods; Mark Steinberg, SC Johnson; Caryl Terrell, Sierra Club; Jennifer Feyerherm, Sierra Club; Liz Wessel, Environmental Policy Consultant; Ed Wilusz, WI Paper Council; Jose Bucio, WI AFL-CIO; Jeff Loeffler, Waupaca Foundry; Cathy McConnell, Triad Engineering; Susan Mudd, Citizens for a Better Environment; Sharon Schwab, Wood Cty League of Women Voters; Caroline Garber, WDNR; Andrew Stewart, WDNR; Jeff Myers, WDNR; John Roth, WDNR; Bart Sponseller, WDNR, Darin Harris, WDNR - *Committee Attendance*: Jill Stevens, Alliant Energy; Bob Fassbender; Myron Hafele, Kohler Co.; Todd Sandman, 3M; Renee Bashel, Dept of Commerce; Dave Boyd, B&S; Lynn Knudtson, Future Foam; Jim Fleischmann, Liesch Environmental Services

Morning Session:

I. Welcome/ Introduction/Meeting Review (Caroline Garber - Environmental Studies Section Chief)

- Welcome
  - Caroline Garber welcomed TAG and committee members.
  - She asked if posting information on the web was useful to TAG members.
  - Liz Wessel, environmental policy consultant, said she thought it was useful but that messages should be in a later version of Word. (This refers to e-mail messages)
  - Caryl Terrell, Sierra Club, suggested that messages sent via e-mail be sent with only one or two attachments at a time and labeled Group I, II, III, etc.
  - Howard Hofmeister, Beasom Co., requested that dates be included in the name of the attachments.

- Review of Meeting Notes
  - Final meeting notes were not provided until the meeting date (5/25). Caroline Garber asked TAG members to review the notes and return their comments to Bart Sponseller (sponsb@dnr.state.wi.us) within one week's time.

- Review of Meeting Agenda
  - C. Garber reviewed the agenda and asked for comments. None were given.

II. Report from Health Sub-Group (C. Terrell – Sierra Club)

- A draft table entitled "NR 445 Technical Advisory Committee Public Health Work Group TABLE OF ISSUES" was provided to all TAG and committee members.
- C. Terrell said that the goal was to sharpen the language in the table and requested that comments be mailed to her. Comments will be used to develop recommendations and will be placed in the table.
- ITEM 1 – Precautionary Principle – The public health sub-group (PHS) will recommend that the original precautionary principle of prevention from the 1985 Task Force Report appear in the revised NR 445 rule.
- ITEM 2 – Additive effects/Synergy – The PHS recognizes the fact that reactive chemicals are not considered to react in the atmosphere. Sometimes these chemicals breakdown into carcinogens before (or after) reaching the receptor point. C. Garber suggested that Dr. Jamie Schauer make a presentation on this topic. S. Mudd mentioned that Argonne National Laboratory just came out with a report on the cumulative risk initiative and asked J. Myers to contact them for more information.

- C. Terrell stated that there will be a teleconference on June 8 at 1:30 PM until 2:45 PM. Please contact her at (608) 256-4562 if you can attend. An office at the WDNR in Madison will be provided.

III. Report from Modeling Sub-Group (John Roth – WDNR Atmospheric Dispersion Modeler)

Purpose: To present and discuss the modeling protocol proposal. The modeling protocol may be revised following the TAG meeting.

- J. Roth stated that the Modeling Sub-group (MS) expressed intrigue with Ty Stocksdale's proposal. There is interest in working on the details of the proposal to clarify some points. They feel that some statements should be added to recognize modeling assumptions for future reference.
- Referring to the handout "Toxics Advisory Group Threshold Emission Rates," J. Roth explained the two modeling options that are currently being considered. He posed the question of what modeling assumptions need to go into the revised NR 445. ***Option A*** – states that the rates will be based on the higher of the urban or rural concentration from the highest hour, the highest day or highest year, depending on the pollutant. ***Option B*** – The rates for sources within Milwaukee will be based upon the urban concentrations from the highest hour, day or year, while rates for the remainder of the sources within Wisconsin will be based upon the rural concentrations from the highest hour, day or year. Note: For either option, the threshold tables may **not** be used if stacks have horizontal or obstructed discharge and/or if significant terrain (i.e., elevations >25% of stack height within 500 ft) exist. In such cases, sources will be required to perform source specific modeling.
- J. Roth said that the main issues are (1) urban vs. rural and (2) whether additional tables need to be added. Currently, terrain and additional sources are not included in the modeling but building downwash will be used. John suggested that 6 tables could be added in option B including 3 rural and 3 urban stack heights (1) < 25 ft (2) > 25 ft and < 75 ft, and (3) > 75 ft.
- *Qu.* - M. Steinberg of SC Johnson asked if all options assume downwash? He asked if dilution matrices, as they are currently used in Michigan, had been considered. He noted that Michigan's method is user friendly and less conservative.
- *Ans.* – J. Roth said that he has read Michigan's rule. He said that the goal is to be conservative in the threshold tables suggested in Options A & B. If a source would go exceed the threshold, it would mean that more specific modeling work would need to be done. He also noted that the EPA SCREEN model, which would be used to model a source's value, is simple to use.
- *Qu.* – C. McConnell of Triad Engineering asked how the WDNR NR 445 revision team envisions the impact from an enforcement point of view. She asked if the threshold would pull a source into the permitting process.
- *Ans.* – A. Stewart, WDNR Air Management Engineer, said that ways to determine compliance will be looked for once the threshold is exceeded.
- *Qu.*- C. McConnell asked if a source were to send the SCREEN input & output data to the DNR if it would be sufficient.
- *Ans.*- A. Stewart said that it would.
- *Qu.*- J. Beasom of Appleton Paper Inc. asked if Milwaukee has higher emission rates.
- *Ans.*- J. Roth said yes it does. Urban areas have better mixing due to the urban heat island effect. Rural areas typically have more calm conditions at night with limited mixing.
- *Comment* – D. Gardner of Briggs & Stratton added that the old method used urban dispersion coefficients and had no downwash.
- C. Garber summarized the two options. With Option A the more conservative of the urban or rural is chosen for the threshold level. Option B would use two tables. It would define Milwaukee somehow (probably by geographical region) and the rest of the state would be defined by stack height.
- *Qu.*- D. Gardner asked if the modeling exclusion due to terrain and horizontal or obstructed discharge applies to both options. He also asked how to define significant terrain.

- *Ans.*- J. Roth said that it does. John explained that terrain is not usually a problem in Wisconsin based on its topography, and he suggested that anyone with further questions should feel free to call him to discuss this issue.
- *Qu.*- H. Handzel representing WPC and PIW asked if secondary screening models are used in either case.
- *Ans.* – J. Roth said yes, and said that he feels option A is the best.
- *Comment* – J. Beasom and Dave Boyd of Briggs & Stratton said that there is not much difference between the two options and suggested that they would go with Option A.

- J. Roth said that he believes that he is hearing that Option A and that the rates for all compounds would need to be detailed.
- H. Handzel said that he feels that Tom Ravn (Serigraph) and Bill Johnson (PIW), who were not in attendance, would agree to accept Option A, but that he needs to check with them.
- *Qu.* - H. Hofmeister said that he assumes that the ratios will always be fixed.
- *Ans*. – J. Roth said that for these stacks, the ratios will be fixed.
- *Comment* – H. Hofmeister said that if Option A is accepted, he believes that a simple paragraph to set up the ratios for each chemical on a 1 hour standard and in an urban setting. He also suggested using another level by using a coefficient. He said that this would be like using a screening model but it would eliminate the need to model. A ratio could be listed in a table as a multiplying factor rather than plugging values into a model.
- *Comment* – J. Roth stated the ratio will not be the same for all stacks. So the more accurate method would be to implement the tables as indicated in Option A, and to add the Stocksdale proposal.

IV. Proposals for Demonstrating Compliance with Threshold Levels in NR 445

Purpose: To discuss proposals for Acute Toxics and Carcinogens. The proposals may be revised following the TAG discussions.
(Mark Steinberg for Ty Stocksdale)
A. Proposal for Threshold Levels for Acute Toxics

- Mark Steinberg of SC Johnson began his presentation by noting two changes in the proposals wording.
  - On page 1, item 2., the words "**a percent of** " located on the second and third sentences should be stricken from the text.
  - On page 3, in the first paragraph under the section Conclusion, add the following words to the sentence that ends on the 4th line. "**for multiple stacks**." So, the entire sentence reads, "There is an adequate degree of conservatism retained, based on the meteorology used in the screening model coupled with the discounted AAC limits **for multiple stacks**."

- *Qu.* - S. Mudd asked if the alteration on page 1 would affect the 90% figure quoted in the third paragraph on page 3. The line reads, "If the composite ambient air concentration is less than 90% of the ACC, the compliance certification criteria are met."
- *Ans.* – M. Steinberg said that it would not.

- M. Steinberg continued stating that the basic premise of the proposal is to reduce the workload on industry as well as Department staff. The lowering of thresholds and the conservative modeling assumptions require extra work. The proposal is a second level of screening short of full-blown modeling for acute toxics.
- Other issues M. Steinberg feels should be considered include the use of an adjustment factor and the urban vs. rural coefficients. He said that if a facility cannot demonstrate that it emits less than the thresholds, then this method may be used. A model would be selected, such as SCREEN 3, and site-

specific parameters would be used to see if values are greater than or less than the AAC. This method is quicker and cheaper than full-scale modeling and is independently verifiable by the WDNR.

- For multiple emission points an impact ratio approach is suggested. The stack with the greatest impact at any point at the facility is determined. Then the highest calculated impact ratio (see bottom of page 2 of the handout for equation) is used on the other stacks. For example, take a facility that has three stacks on the property emitting pollutants. The first stack emits at a rate of 1 lb/hr, is 30 ft tall and is located 50 ft from the point. The impact ratio is [1lb/hr / (30ft*50ft)] = 1/1500 for the first stack. The second stack emits at 0.5 lb/hr, is 40 ft tall and is 40 ft from the same point. The impact ratio is [0.5/(40*40)] = 1/3200 for the second stack. If we assume the third stack impact ratio is even smaller, then the stack with the greatest impact ratio (1/1500) would be determined and that point would be used when modeling stacks 2 & 3 for the combined additive impact.
- The SCREEN model uses a canned set of meteorology and the pollutants always blow toward the receptor so cardinal directions are inconsequential. The model is linear and assumes worst case meteorology for any direction. It assumes that the wind blows at one point for 1 hour at a given wind speed and stability class.
- M. Steinberg noted that extra conservatism is added in the method in exchange for a short cut. He noted that the value should be 90% of the AAC and it must be done for each toxic.
- J. Roth stated that in order to get the 24 hour concentration, the 1 hour concentration is multiplied by a factor of 0.4.
- M. Steinberg said he believes that the 1 hour ceiling versus the 24 hour TLV should be factored into the proposal.
- C. Terrell asked where this would be addressed.
- C. Garber noted some confusion and stated that guidance would be developed to address this question.

- *Qu.* – J. Feyerherm asked why there is a 10% discounting factor.
- *Ans.* – M. Steinberg replied that the discounting factor makes it possible not to calculate the receptor grid for all points. He added that it is more conservative.
- *Comment* – C. McConnell added that the discounting factor addresses multiple points since the SCREEN model is meant only for one point.
- *Qu.* – H. Hofmeister asked if there is a way for industry to use the DNR model (ISCST3) to modify only certain default values (e.g. temperature, stack height, etc.) and run it?
- *Ans.* – J. Roth replied that it would take a lot of time to develop and would be very involved. This would include running all 5 years of data each time on the ISCST3 which would be time intensive. The SCREEN model takes seconds to run.
- *Qu.* – D. Boyd asked if a company would like to use ISCST3 on their own and go a step higher, would the DNR prevent it?
- *Ans.* – J. Roth said that the DNR would not prevent a company from going a step higher.
- *Comment* - A. Stewart said that in addition none of the work that a company has previously done would be excluded.
  Comment – D. Gardner said that essentially this is an alternative that would keep a company out of the permitting process.
- *Qu.* – S. Mudd asked what the most important things are that the ISCST3 would tell us that the SCREEN would not.
- *Ans.* – J. Roth replied that the SCREEN model does not use real world meteorological conditions, or multiple stacks or receptors off the plume centerline. Neither SCREEN nor ISCST3 include chemistry or calm wind conditions.

- *Comment* – Fleschman said that the SCREEN comes close to taking the worst case scenario because the 0.4 factor is very conservative yielding a higher concentration.
- *Comment* – D. Boyd said that the SCREEN model puts all stacks in a row and blows down a single line at one point.
- *Comment* – M. Steinberg said that the trade-off is that companies get to use site-specific parameters rather than the original defaults.
- *Qu.* – S. Mudd asked what the real certification of the modeling would be?
- *Ans.* – M. Steinberg said that the WDNR could independently replicate the company's analysis to certify the modeling that is in lieu of monitoring.
- *Comment* – A. Stewart said that a preventative rule exists that models must be performed at maximum emission rates or the WDNR would not accept the company's monitoring to stay below the ambient air concentration.
- *Comment* – R. Bashel said that from the small business point of view, the SCREEN model would be best because the ISC model requires too much computer power.
- *Comment* – D. Boyd, in responding to S. Mudd's question, said that the company would also have to provide a plot map with all the facility parameters (distance to fence line, stack height, etc.) as well as the modeling results.
- *Comment* – M. Steinberg added that the modeling assumes that all stacks are running at their maximum emission rate at the same time.
- *Comment* – S. Mudd said that the consequences of being wrong are severe and for public health reasons, the models should be very conservative.
- *Comment* – A. Stewart said that this proposal would keep some sources, whose emissions do not exceed the AAC, out of the permitting process. In addition, many sources will already have permits with plot plans, distances, etc.
- *Comment* – A. Neudorfer commented saying that everyone would still have to look at their permit again to do the analysis.
- *Qu.* – D. Daggett asked if the modeling considers the impact only at the property boundary.
- *Ans.* – A. Stewart replied that the modeling finds the highest concentration point at or beyond the boundary where the highest impact is located.
- *Comment* – D. Boyd said that it is very possible that the highest point could be beyond the property line with a 50 foot stack or 25 foot building, but the model catches that.
- *Comment* – J. Roth added that the SCREEN model can iterate out to find the point of maximum concentration.
- *Comment* – M. Steinberg commented that as long as companies are forced to assume building downwash the maximum concentration will be at the fence line.

- *Comment* – S. Mudd added that if the intent of the proposal is to locate the point of maximum concentration, some of the wording in the proposal will need to be reworked.

- *Qu.* – D. Daggett asked if the proposal could actually lead to higher emissions by some facilities in the state.
- *Ans.* – A. Stewart replied that it would not. He explained that the modeling is only done for the threshold value. Rules allow a source to emit up to an appropriate percentage and that is all.
- *Qu.* – D. Gardner asked if the modeling triggers the threshold, would companies have to do the evaluation to put on BACT (Best Available Control Technology) or another technology?
- *Ans.* – D. Boyd said that regardless whether a company is above the threshold or not, SCREEN modeling must be done in the permitting process. The result is exactly the same. The proposal only allows modeling outside of the permitting process.

- *Qu.*- D. Daggett asked if emissions could go up to 99.9% of the standard and still be legal. He is afraid that this could encourage more emissions.
- *Ans.* – J. Roth said that this is possible now.
- *Comment* – C. McConnell added that the point is get those sources out of the permitting process that know they would be out anyway.
- *Qu.* – S. Mudd asked what the difference between the Ty Stocksdale proposal and H. Hofmeister's suggestion is.
- *Ans.* – H. Hofmeister said that rather than running the SCREEN model that the 1 hour stack emissions could be used and this could be multiplied by a factor like 1.3 in the City of Milwaukee.
- *Comment* – S. Mudd said that this sounds less conservative.
- *Comment* – H. Hofmeister replied that it would save on the costs of modeling.
- *Comment* – J. Roth said that the problem is that 1.3 factor does not apply to all situations.
- *Qu.* – E. Wilusz asked if someone could develop a list that they could take back to their own modelers to check.
- *Ans.* – C. Garber said that John Roth would write up the limitations and general guidance for the proposal. She added that this is the penultimate proposal and reminded everyone that the issue is still open for discussion.
- *Comment* – J. Roth said that he would bring the SCREEN model to the next meeting.
- *Qu.* – S. Mudd asked if the issue was actually saving money on the modeling. She asked how much the modeling costs.
- *Ans.* – A. Neudorfer said that it costs approximately $100 to run the SCREEN model versus several thousand dollars in Department and company time for the current method.
- *Comment* – D. Boyd said that the question is not about the money; it is whether a company is in or out of the process.
- *Comment* – C. Garber said that the benefit is different depending on the size of the company and that time and money are important for small businesses.
- *Comment* – A. Neudorfer said that the impact on the Department would be to save money and time.
- *Comment* – D. Boyd added that even an enforcement person and other staff could verify the modeling results. Not everything would have to go through J. Roth for review.
- *Comment* – T. Sandman added that for his company, 3M, the time it takes to get a new product to market is critical and that this proposal would speed up the process.
- *Comment* – C. Terrell stated that the permit process has a lot of functions. A facility is responsive during the permit process and she does not believe that it is germane to say whether the environmental groups approve of the proposed process yet. This will be something on which the public health group will comment.
- *Comment* – C. Garber said that Ty Stocksdale and John Roth will need to discuss all of the issues being questioned.
- *Comment* – H. Hofmeister added two points concerning the proposal. He said that if the SCREEN model is used then he would like to see an exemption set up on paper for permitting purposes. He also feels this could be used for compliance demonstration purposes under NR 445 rather than on NR 406 & 407. In addition, he feels that the proposed mechanism for modeling should also be used for Tables 3 and 5, not only for Tables 1, 2, & 4, or potential allowances to do so should be considered. Howard believes this would save industry money.
- *Comment* – M. Steinberg said he believes that the proposal could also be applied to Table 5, not just Tables 1, 2 & 4.
- *Comment* – H. Hofmeister says that he believes that it is presumptive to assume that the SCREEN model is more conservative than ISC3. He feels this should be considered as well in order to save time.

- *Comment* – C. Terrell said that the Public Health Sub-group will look at the proposal very carefully before approving it.

B. A Proposal for Compliance Demonstration Alternatives for Carcinogens (Andy Stewart, DNR Air Management Engineer)

- *Material: A Closer Look at the Alternative Applicability and Compliance Proposal for Table 3 Compounds*
- A. Stewart reviewed the proposal introduced at the April 27, 2000 meeting. He said that the proposal is designed to ensure that the source specific impact does not exceed 1 in 100,000 risk level. It allows a source two options to avoid control technology requirements and it takes into account real world impacts when they can be qualified. This is done on a chemical-by-chemical basis using the threshold model. If the threshold is exceeded, it will bring the company into regulatory review and control technology standards must be met.
- Referring to the first slide on page 2 of the handout, Andy noted that if a company can demonstrate that they are below the 10^{-5} risk level, then they do not need control technology. He also said that these would be considered compliance and applicability options. The compliance option allows a company to take a enforceable limits in its permit to ensure that the risk level remains below 10^{-5}; this refers to site-specific 10^{-5} risk for all Table 3 HAPs. The applicability option enables a company to take enforceable limits in its permit to ensure that allowables are below Table 3 threshold levels.
- Andy then reviewed the details of the proposal. He explained that the compliance option would be an acceptable compliance demonstration within NR 445. The applicability option would be an additional applicability "filter." Either could be chosen by a source, however the compliance option is not available to sources of Table 3 compounds with unknown potency factors. Under both options, the source would elect to receive enforceable conditions in a permit.

- *Qu.* – M. Steinberg asked if actual meteorology data would be used with site specific details.
- *Ans.* – A. Stewart replied that it would.
- *Qu.* – S. Mudd asked if a company elects to take the enforceable limit would it be on a chemical-by-chemical basis.
- *Ans.* – C. Garber said that this would be clarified later in the presentation.
- *Qu.* – D. Boyd presented a hypothetical situation. He said that if 3 carcinogens are being considered and 2 have known unit risk factors but 1 does not, does this mean that the options would not apply. He also asked if this would automatically force a company to accept BACT or LAER.
- *Ans.* – A. Stewart replied that this is correct.

- Andy continued with the first slide on page 3 of the presentation. Details – Compliance Option. The source must include emissions of all Table 3 compounds in the site-specific assessment. This includes (1) area, point and fugitive emissions (2) emissions exempt from the control standard and (3) emissions from MACT processes. The assessment would be done using operational parameters (throughput, hours, etc.) to be placed in the permit. He added that it must be demonstrated that **all** emissions are below 10^{-5} at the fence line.

- *Qu.* – M. Steinberg asked if companies could take credit for MACT compliance.
- *Ans.* – A. Stewart answered that controls would have to be in place already.
- *Comment* – C. Garber added that all toxic emissions from the facility would have to be considered.
- *Qu.* – M. Steinberg asked why emissions exempt from control standards be included.
- *Ans.* – C. Garber replied that this is for modeling. All emissions are included to see what the full impact of all emissions are. A. Stewart added that this is an alternative to getting out of the control technology but it is

not a requirement. It is only an alternate approach for those companies who want to get out of the control technology standard.

- *Qu.* – J. Beasom asked if natural gas fired boilers would be considered in the analysis.
- *Ans.* – A. Stewart said that natural gas fired boilers would be included in the model analysis only because it uses all emissions to which the public may be exposed.
- *Qu.* – M. Steinberg asked for clarification on the following situation. He said that if one facility had 3 sources at a site and a risk analysis is performed which exceeds 10^{-5} but two sources are currently exempt from NR 445, could the facility take out the two exempt sources in order to get under the 10^{-5} bright line?
- *Ans.* – A. Stewart said that exemptions can only be utilized for the control options.
- *Comment* – D. Gardner clarified the proposal by stating that the exemption is not being removed. He said that the threshold modeling is an additional option. Currently, if a facility is above the level of Table 3 emissions, the facility is required to have a BACT or LAER controls. This option is an out.
- *Comment* – C. Garber said that the choice for facilities to make is whether it is better to do BACT/LAER or whether to consider modeling the risk for the entire facility.
- *Qu*. – H. Handzel asked if it is possible to trade control of one chemical for another.
- *Qu./Comment* – S. Mudd said that she is concerned with the proposal. She asked what the DNR believes the net increase in allowable emissions may be by going to all Table 3 HAPs option. She fears this could allow more emissions. She asked if facilities could trade off their stack emissions. Susan said that she is also worried about additive effects. She asked whether two nearby facilities would be considered together at a specific point since this is a real life situation.
- *Ans*. – A. Stewart said that it was not proposed to be considered at this point.
- *Qu*. – H. Handzel gave an example of a potential situation. Hypothetically, he said there is a facility that has a new source with benzene but the facility does not want to do BACT. The facility does the modeling of the sources and finds that to exempt the source from benzene they must control formaldehyde to get below the level. His question is if a facility already uses LAER then they cannot use this option, correct?
- *Ans*. – A. Stewart said that this is true.
- *Qu*. – R. Salcedo asked if the WDNR does not intend to consider two sources at the same point.
- *Ans*. – C. Garber said that the WDNR is not intending to do so in the current rule revision.
- *Comment* – R. Salcedo said that there is a finite absorption ability for an air shed for toxics and that multiple sources should be considered simultaneously.
- *Comment* – C. Garber said that it is a step forward to consider the total emissions from a facility.
- *Qu.* – Keith Reopelle of the Wisconsin Environmental Decade asked if a facility is over the threshold and applies BACT/LAER is it possible that they will make only half the reductions desired and will actually remain over the threshold?
- *Ans.* – A. Stewart said yes but it could go the other way as well.
- *Qu.* – K. Reopelle said since the current proposal does not include additive effects and the compliance options have raised a new reason for considering this, does the WDNR not believe that they shouldn't consider additive effects in this rule revision?
- *Ans.* – C. Garber said that the WDNR did not look at this yet. The rule revision team has only looked at what is in the proposal.
- *Qu.* – K. Reopelle said are you saying that the proposal is worth considering. He said that this would consider the true health impacts end point and it would put the multiple impacts issue on the table.
- *Qu.* – H. Hofmeister asked if the proposal is to consider *all* Table 3 chemicals.
- *Ans.* - A. Stewart said that all chemicals would be considered.
- *Qu.* – H. Hofmeister said that if there is no potency factor for a chemical and a facility only emits 1 microgram is it still out of the option?

- *Ans.* – A. Stewart said that, according to the current proposal, if a chemical has no potency factor the modeling cannot be done.
- *Comment* – C. Terrell said that it does not make sense. It seems that a facility can pick and choose what is included in the model. It assumes zero risk.
- *Response* – A. Stewart said no this is not true. If a facility emits a chemical with no unit risk factor and it exceeds a threshold of 10 pounds per year, BACT or LAER must be used. This option limits the availability to sources. A facility cannot "model out" if they emit a chemical with no unit risk factor.
- *Comment* – D. Boyd said that he would like everyone to remember that we are significantly reducing a lot of the thresholds and that a lot of new companies will be brought in to perform the threshold evaluation. He said that the basis for the thresholds is very conservative modeling. He wants the ability to show his company's cumulative effect is less than 10^{-5}. He said that a company should not have to put on controls just because they emit one chemical without a unit risk factor. He asked everyone to remember all the conservative factors built into the modeling. David said that the risk is based on one person standing continuously in the same spot for 70 years. It is not information that is available to anyone to make this demonstration.
- *Comment* – B. Fassbender clarified the proposal by stating that because a certain chemical with an unknown potency factor is above the 10 pound per year threshold, the modeling option would be unavailable. He added that there are approximately 75 substances that would fall into this category.
- *Response* – A. Stewart said that it is true.
- *Comment* – D. Boyd asked a rhetorical question stating that Milwaukee wants brownfield development. But are you telling me that I should not bring in my industry because I have to look at all buildings and other industries?
- *Comment* – R. Salcedo said that the modeling exercise would be done for health purposes. He gave an example of having a citizen's home located between two facilities. He said that individually facilities may not have a significant impact on the citizen but the additive effect may be significant. The current proposal ignores the additive effects and this gnaws on the conservatism the TAG was just discussing. Maybe total emissions from an area should be considered in the future.
- *Comment* – M. Steinberg noted that the EPA has a program on performance based risks and said that it somewhat applies to this. They perform site-by-site residual risk analysis for cumulative risk and urban air studies.
- *Response* – R. Salcedo said that he feels his question is a very legitimate question and realizes "in left field" but that it is not too early to ask such a question.
- *Comment* – D. Daggett added that actual monitoring data in modeling exists for Milwaukee indicating that the cumulative risk is $\mathbf{10^{-4}}$.
- *Qu.* – T. Sandman asked if the total emissions would include indoor fugitive emissions.
- *Ans.* – A. Stewart said that it would include indoor emissions and that the best available modeling would have to be used. J. Roth added that the modeling has been done and that it uses general ventilation.

- *Comment* – C. Garber said that it would be very helpful to receive feedback from industry to see to what extent the emission of chemicals with no unit risk factor would exclude them from this option. She asked all of the industries present to provide the NR 445 team with this information. This precludes silica.
- *Comment* – L. Wessel suggested doing the reverse as well. She believes it would be helpful to consider placing the chemicals with no unit risk factor in families with known risk factors.
- *Comment* – D. Daggett said that one example of this is PAH but silica would not fit into this. He said that this has already been done in many cases and that he is not aware of any Table 3 chemicals without unit risk factors to which this would apply.

- *Comment* – C. Terrell suggested asking Lynda Knobeloch for some suggestions including some non-carcinogens.

- *Comment* – A. Stewart noted that there are approximately 40 chemicals existing in Table 3 **and** approximately 26 newly proposed chemicals for Table 3 with no risk factors.
- *Comment* – C. Garber stated that a list of Table 3 compounds with no unit risk factor would be provided to TAG members so that they can consider to what extent these chemicals would prohibit them from using this option.

- A. Stewart continued with his presentation on page 3 slide 2. He reviewed risk assessment. Andy stated that the best available modeling techniques would be used to estimate the impact from hard to model sources. Modeling would use site-specific information and local meteorological data. The additive impact would be considered in cases where multi-Table 3 compounds are released.
- *Qu.* – C. Terrell asked if worst case meteorological data would be used in the modeling, and what assumptions would be allowed.
- *Ans* – A. Stewart said that real numbers based on the facility would be used in the model, and J. Roth added that several 5 year data sets from around the state can be used depending on the location of the facility. He added that meteorological data that is most representative would be used.
- *Comment* – C. Terrell stated that the word "local" used in the presentation did not tell her this.

- Andy Stewart continued with some more details on the proposal. He noted that the following issues are either not included or considered: (1) background concentrations (2) multiple sources (off property) (3) land use and (4) synergistic effects. He added that restrictions may be removed in the future provided that the source meets the applicable BACT or LAER emission standard prior to doing so.
- *Qu.* – S. Mudd asked if this really does mean that emissions could increase if they are still below the threshold.
- *Ans.* – A. Stewart said that emissions could increase if BACT or LAER actually allowed a facility to do so.

- A. Stewart finished the presentation with slide 2 on page 4. He said that sources currently regulated by BACT or LAER would be able to utilize either option in lieu of control requirements.
- *Qu.* – S. Mudd asked what the emission impact is that the Department has calculated or seen as a risk for 10^{-5} versus 10^{-6} or 10^{-7}.
- *Ans.* – A. Stewart said that this has not been calculated yet.
- *Qu.* – S. Mudd asked if the Department intended to do so. Susan added that she and others are quite concerned about the choice of the risk level. She would like to know when the Department could get a sense of the impact posed by the 10^{-5} risk choice.
- *Ans.* – A. Stewart replied that they would need to first look more closely at the data.
- *Comment* – B. Fassbender said that industry likes the idea except for some practical points.
- *Comment* – C. Garber said that she believes the biggest practical impediment is the chemicals with no unit risk factors.
- *Comment* – B. Fassbender said that that point and the fact that more modeling would need to be performed by sources.
- *Comment* – A. Stewart added that the language related to modeling in his presentation is not meant to imply that a higher level of modeling is needed.
- *Comment* – C. Garber said that the most difficult task could be getting emission values. She summarized the two main critiques given by the environmentalists. (1) The lack of additive effects

does not please them and (2) they would like to see an analysis of the impacts of 10^{-5} risk versus 10^{-6} or 10^{-7}. Caryl Terrell agreed with this summary.

- *Qu.* – M Steinberg asked A. Stewart to explain the last bullet on slide 1 of page 4. "Restrictions may be removed in the future provided the source meets applicable BACT or LAER emission standard prior to doing so."
- *Ans.* – Andy explained that a company using the 10^{-5} limitation could, in the future, go back to using BACT or LAER.

Afternoon Session:

V. Decision Criteria for Setting Threshold Levels in NR 438 (Andy Stewart, DNR Air Management Engineer)

Purpose: To discuss May 2000 Proposal for Decision Rules for Emission Inventory Threshold Levels. This proposal includes setting reporting thresholds of 10 pounds/year for 7 Great Lake Chemicals without TLVs and reporting thresholds of 100,000 pounds/year for 14 chemicals with TLVs >99 ppm. Proposal may be modified based on TAG discussion.

- C. Garber introduced the discussion by stating the purposes of the Air Emissions Inventory (AEI). (1) The AEI provides emissions data for the WDNR to monitor and evaluate what occurs in the environment. (2) It is also important for the community right-to-know, and (3) it is the basis for determining emission fees.

- Using the table entitled "Decision Rules for Emissions Inventory (NR 438) Thresholds," A. Stewart explained what the past and current proposals are for the various chemical groups. He began with Non-Carcinogens (Tables 1,2&4) (Items 14 & 15). He explained that there are currently 3 different thresholds for three different forms of mercury (Hg). The proposed threshold is 10 pounds per year for all forms of Hg and the threshold for dioxins and PCBs will stay the same as they currently exist.
- *Qu.* – E. Wilusz asked what the basis is for the 10 lb/yr threshold for mercury.
- *Ans.* – A. Stewart explained that the lowest threshold for Hg is currently under 10 lb/yr and the highest is 37 lb/yr. Based on other legislation, it was decided that 10 lb/yr is a good level. He added that most facilities do not speciate Hg and they are reporting at the lowest level anyway.
- *Qu.* – E. Wilusz said then it is not a technical reason for doing this. The Department just wants more information.
- *Ans.* – Andy replied that Ed is correct.
- *Comment* – Ed said that this seems inconsistent with other types of proposed changes.

- A. Stewart continued with Table 3 (A&B) Compounds (Item 16). Andy said that there are 3 groups of chemicals with no individual emission rates. Previously, the existing proposal was to take 50% of the proposed annual threshold for the group's threshold. Now, the proposal is to take 50% of the individual listed chemical's threshold value.
- A. Stewart then addressed the Reference Concentrations (RfC) from Table 5 (Item 17). Currently, there are no thresholds. The proposal is to take 50% of the proposed annual threshold in NR 445, with a maximum value of 6000 pounds.
- *Qu.* - J. Beasom asked if this would be for all chemicals with RfCs.
- *Ans.* – A. Stewart replied that for conflicting chemicals only those regulated by NR 445 would be reported at the lowest value.
- Andy continued with Items 18, 19 and 20. He noted that the proposal for Clean Air Act Chemicals is to remain the same i.e., 6000 lb/yr for any HAPs not listed in NR 445. Great Lakes Chemicals are

proposed to be listed at 10 lb/yr. The current proposal for chemicals with TLVs >99 ppm is to list thresholds of 100,000 lb/yr for 14 of 17 chemicals for those reported in NR 438. Note: If the chemical is also a CAA chemical, it will be listed at 6000 lb/yr.

- Next, A. Stewart presented more information on Item 20 from the table. He referred to a handout entitled "Proposal to List Chemicals with TLVs > 99 ppm in NR 438 – Background." There are 4 slides on one page.
- A. Stewart provided some historical background for the TAG members. Originally, industry representatives expressed concerns that establishing emissions standards for chemicals with low toxicity would (1) be unnecessary and/or redundant to existing regulations for criteria pollutants (2) add cost to regulation with little or no public health benefits and (3) potentially drive sources to use more toxic chemicals not listed in NR 445. Environmental representatives expressed concerns that listing, rather than establishing emission standards for chemicals with low toxicity would (1) lead to an increase in use to levels that might cause a public health concern and (2) not provide information at a level of detail necessary to provide adequate protection of public health especially for short-term, acute responses.
- Andy then presented information on the rationale for the May proposal. He said that the Department's interest is to do the best job of protecting public health with existing resources. This includes (1) listing chemicals in NR 438 at the proposed level to allow the ability to identify and track sources (2) site specific follow up will allow the ability to require enforceable reductions where needed and (3) removes possible disincentives that might encourage a source to use a chemical with more or unknown health and environmental impact.

- *Qu.* - S. Scwabb of the Wood Cty League of Women Voters asked what was meant by site specific follow up.
- *Ans.* – A. Stewart replied that if a facility emits at levels of public health concern then an assessment would be done of the facility. He also provided an example of what a disincentive might be. For example, if acetone were listed as a toxic, companies may choose to substitute acetone for a more toxic chemical. Note: acetone has been delisted.
- *Qu.* – S. Mudd asked how the number 100,000 lb/yr was derived.
- *Ans.* – A. Stewart said that the emission rate data (from Table 1) for low stacks was considered and a value of ½ of the lower stack threshold was calculated. This estimate is thought to be a conservative value to consider sources that might have a public health impact.
- *Qu.* – The question was asked what is meant by the term "toxic" for reporting purposes.
- *Ans.* – A. Stewart answered that toxic is what is not a volatile organic compound or particulate matter. It is only for categorization purposes. In regards to NR 438, the term toxic is used for reporting purposes. It is an attempt at trying to label a chemical that is non-PM, non-VOC and nontoxic.
- *Comment* – C. Garber added that another reason the proposal was changed from 6000 lb/yr to 100,000 lb/yr is because industry said it is difficult to speciate. She asked for more feedback on this issue.
- *Comment* – H. Hofmeister said that for his facility, it would not be helpful. He said that he has methyl acetate emissions of 90 tons across 16 process lines. 80 tons are derived from 5 lines and the other 10 tons come from 11 lines. This results in 180,000 pounds (90 tons) of methyl acetate emissions and his facility would still have to speciate. He suggested that ranges would be more helpful or use a facility total.
- *Qu.* - Lynn Knudtson of Future Foam asked if the 100,000 lb/yr threshold was chosen for reporting purposes.
- *Ans.* – A. Stewart said that it is also for billing purposes because chemicals emitted at levels over 100,000 lb/yr are billable.

- *Comment* – L. Knutson said that there are chemicals that are more chemicals that may substitute acetone that are more toxic, work better, and of which the company can use less. He noted the fact that if acetone were billable, it may drive his company to use other chemicals.
- *Qu.* – C. Garber asked if it is the fees that would cause companies to switch to other chemicals or if it is the fact that reporting would be required.
- *Comment.* – L. Knutson replied that for his company, it would be the billing. He added that if the State only wants to monitor acetone for tracking purposes, why should the State bill for it too.
- *Comment* – B. Fassbender asked A. Stewart to explain the billable column in the table entitled "Chemicals with TLVs > 99 ppm" (received at the 4/27/00 meeting).
- *Response* – A. Stewart said that facilities already pay for 13 of the chemicals for ozone purposes and that only 4 are billable for NR 438 purposes.
- *Qu.* – M. Steinberg asked what level of effort is expected of industry to quantify chemicals at such low levels. He said that a significant level of effort could be demanded to provide the best estimate. What does the Department expect?
- *Ans.* – A. Stewart showed the log scale table entitled " NR 438 Reporting Levels" provided at the 4/27/00 meeting. Andy showed that reporting levels for many chemicals is very low. He said that DNR staff would need to look at this question for inventory and compliance purposes as well as methods that could be used for quantification.
- *Qu.* – M. Steinberg asked if this will get additional attention as the process moves forward.
- *Ans.* – A. Stewart replied that it would
- *Comment* – C. Garber added that the next meeting would begin with an inventory discussion. The meeting then moved on to the sixth item.

VI. Discussion of methods to streamline NR 445 and make it more efficient

Purpose: To obtain ideas and suggestions from TAG members on ways that NR 445 (both the existing rule and the proposals under discussion) could be drafted to achieve efficiencies and clarity.
(Darin Harris, DNR Facilitator)

- Darin Harris began by introducing himself as a DNR facilitator, a consultant for complex natural resources issues. He said that his purpose is to have the group discuss how to streamline and improve the existing NR 445 rule as well as the proposed rule. From the discussion a list of suggestions is to be developed to aid in the streamlining process. He noted that content should not be raised in the discussion rather a list of problems with their suggested solutions should be developed for the NR 445 rule revision. He added that the hope of the exercise is not to achieve agreement but to gather a list of suggestions in the time allotted.
- D. Harris outlined the focus of the exercise. The four main discussion points were (1) listing chemicals (2) threshold levels (3) applicability and compliance options and (4) NR 438.
- *Comment* - L. Wessel said that she wanted to make sure that the purposes was not to make the rule easy to implement and use.
- *Response* – D. Harris asked if she was implying that if the rule is easy to use that it may not be effective and that the exercise may compromise the environmental view point of the importance of public health.
- *Comment* – A. Stewart said that the role of the DNR staff is to take the list of streamlining suggestions and make sure that issues are not compromised.
- *Comment* – L. Wessel said that efficiency speaks to resources and the issue is about effectiveness in protecting public health.
- D. Harris said that he is feeling that NR 445 is, in its current state, difficult to read, use, and follow. He asked if the focus should be what the DNR can do to make the use less onerous so that it can be used more effectively.

- *Comment* – D. Boyd said that the other extreme is to keep a rule that many people in the industry have gotten to know very well over the past 12 years. The simplistic thing would be to make only minor changes to Table 3, etc. The end result may or may not look like the current rule. The purpose should be to avoid a lot of new learning, which requires much time.
- *Comment* – T. Sandman said that NR 445 works very well compared to other states in which he has worked. He said that the goal should be to mesh the current level of science for public health and science as it relates to industry; the meshing of health and the practicability of current measurability/technology should be considered.
- D. Harris said it sounds like people would like to make sure that the DNR tries to improve the existing rule in terms of public health protection and to make the rule more practicable. Industry's primary problem with the rule is it is too onerous and complicated. In addition, environmentalists do not want to make changes to the existing rule that would jeopardize public health, and the status quo is not sufficient.
- D. Harris continued with a handout entitled "Streamlining NR 445." The following question was posed and participants were asked to write down a list of problems with a corresponding solution. The question is, "When looking at NR 445 and the elements of the rule that are currently being proposed for revision, what problems or opportunities for improvement exist to make it more usable on a functional/practical level? In other words, how does the DNR effectively implement NR 445?" Darin added that the problems and solutions should be addressed towards the four areas that have been discussed thus far. (1) listing chemicals (2) threshold levels (3) applicability and compliance options and (4) NR 438.
- B. Fassbender said that a problem he feels needs to be addressed is having federal and state programs targeting the same problems and the confusion this creates. The solution is to reconcile the two laws and defer to the federal government whenever possible. He added that the rule's applicability should be clarified.
- D. Boyd said that he believes the timing of the rule and its impact on pending Title V permits must be considered. His solution is to not have any new limits apply until the Title V permits are complete.
- D. Harris asked TAG members to consider the language they would suggest for the rule in their solutions.
- M. Steinberg said that there is much redundancy in the current applicability portion of the rule, and his solution is to consolidate all applicability rules into one section.
- J. Hausbeck believes that since the rule cites a specific TLV publication, the rule will become outdated with each annual revision of the TLV book. His suggestion is to change the legal wording of the rule to allow the newest publication to be the TLV reference book upon its publishing.
- A. Neudorfer for C. McConnell said that tables 1 & 4 should be simplified and combined.
- S. Schwabb said that she feels a guide to understanding Wisconsin's rules and regulations would be helpful. It should include an executive summary in a user-friendly format. This would be more digestible to the general public/lay people. Her solution for NR 445 is to provide a HAP document as a guide.
- S. Mudd said that the process for revising the rule is too cumbersome and complicated. She said that other rules at the DNR are dependent on other documents and that the rules are updated regularly. She feels that the revision should be a less detailed process. Susan will identify the rules to which she speaks and provide them as a model solution.
- A. Neudorfer said that modeling results are provided in concentrations. She suggests providing a list of acceptable ambient air standards and thresholds within a table so that the step of converting concentrations is eliminated.
- L. Wessel said that even when the current standards are being met, there are still public health problems. She suggests that some mechanism for additional permitting requirements be added.

- M. Steinberg said that he feels that the ability to accurately quantify emissions at very low concentrations poses a problem. His solution is to add a section to the rule that provides flexible options for estimating emissions.
- J. Bucio said that he feels there is a problem between non-attainment areas versus regional areas and that Milwaukee will lose business opportunities. C. Garber responded that NR 445 rules apply equally across the state and that J. Bucio is thinking of ground level ozone regulations.
- J. Bucio asked if the law will have an effect on OSHA standards. S. Mudd said that there is a presumption that facilities are already in compliance with OSHA standards.
- E. Wilusz said that there is a need for a reality check and that the nonproductive administrative burden must be considered. Ed feels that every chemical that may be added to the rule must be considered carefully based on a reality check. He said that a couple of the listed chemicals are common food colorings and that this type of situation should be avoided. His solution is to recategorize and reevaluate chemicals and tie them to emissions or impacts. The list should be refined and there should be a focus on emissions and environmental and health impacts.
- B. Mitchell said that he feels that some stylistic and format changes need to be made to the rule. He suggested that some flexibility be allowed.
- J. Loeffler said that the fact that many chemicals that we already know much about are being addressed the same way in as chemicals we know very little about. His solution is to use the watch list program for those chemicals we know little about e.g., the proposed chemicals with no unit risk factor.
- M. Hafele believes that the five different lists in the current rule is a problem. His solution is to combine the lists into one organized train of thought.
- M. Hafele said that all chemicals should be associated with their CAS number in the rule because industry sorts and organizes their databases based on CAS numbers and the CAS is more specific. His solution is to sort the tables by their CAS number.
- H. Handzel said that the current rule reads that if a source is subject to MACT it must get a permit regardless of whether its emissions levels have increased. He does not feel that this is right. His solution is to eliminate the provision. A. Stewart asked which provision Hank was referring to. Hank said that it is 406.04 (2). He would like consistent exemption criteria. S. Mudd said that she disagrees with the solution.
- D. Daggett said that the current form of NR 445 is not very usable for other state departments. He said that it is difficult to get any information about chemicals. He said that his solution is to have NR 445 searchable by task on the web. It should include the ambient air concentrations, sources, and links to the federal standards. The chemicals should be searchable by their CAS number and name with other links to background information.
- This was the last comment in the streamlining exercise.

- M. Steinberg asked that ethyl acetate was delisted in the 9th Report to Congress. He would like to make sure that this issue is addressed at a future meeting.

- C. Garber reminded the TAG and committee members that the **next meeting** will be on **June 22** in Milwaukee at the WEPCO auditorium (231 West Michigan St) from 9:30 AM to 3:30 PM. Caroline said that the discussion on inventories would be completed at the next meeting and an overview for the interplay between MACT and new sources would be presented. She added that there will be a conference call for the public health sub-group on June 8th at 1:30 PM. After the June meeting, following meetings will be held every 6 weeks.
- B. Fassbender asked if there were any results from the crystalline silica sub-group yet. C. Garber said that nothing had been done yet.

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